


FORM PTO-1390 (REV 11-98)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER ICB 063
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			U.S. APPLICATION NO. (If known, see 37 CFR-1.5) <b>09/581916</b>
INTERNATIONAL APPLICATION NO. PCT/CH 97/00471	INTERNATIONAL FILING DATE December 17, 1997	PRIORITY DATE CLAIMED	
TITLE OF INVENTION Process Enabling Financial Transactions, System Thereof and Electronic Purse			
APPLICANT(S) FOR DO/EO/US JACOT, Philippe			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</li> <li>4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li>6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> have been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input checked="" type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol>			
<b>Items 11. to 16. below concern document(s) or information included:</b>			
<ol style="list-style-type: none"> <li>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</li> <li>14. <input type="checkbox"/> A substitute specification.</li> <li>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li>16. <input checked="" type="checkbox"/> Other items or information:  12 pages of specification  1 sheet of formal drawing  Small Entity Declaration  Page 1 of PCT Publication (99/31630)  PCT Communication  International Preliminary Examination Report in French </li> </ol>			

U.S. APPLICATION NO. <b>09/581916</b>		INTERNATIONAL APPLICATION NO. PCT/CH 97/ 00471		ATTORNEY'S DOCKET NUMBER ICB 063	
17. <input checked="" type="checkbox"/> The following fees are submitted: <b>BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):</b> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... <b>\$970.00</b> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... <b>\$840.00</b> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... <b>\$760.00</b> International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... <b>\$670.00</b> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) ..... <b>\$96.00</b> <b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				CALCULATIONS PTO USE ONLY	
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	19 - 20 =	0	X <b>\$18.00</b>	\$	0
Independent claims	1 - 3 =	0	X <b>\$78.00</b>	\$	0
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ <b>\$260.00</b>	\$	0
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$	0
Reduction of 1/2 for filing by small entity, if applicable. A Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28).				\$	420.00
<b>SUBTOTAL =</b>				\$	420.00
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	0
<b>TOTAL NATIONAL FEE =</b>				\$	420.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). <b>\$40.00</b> per property				\$	0
<b>TOTAL FEES ENCLOSED =</b>				\$	420.00
				Amount to be:	\$
				refunded	\$
				charged	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$ <u>420.00</u> to cover the above fees is enclosed.					
b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.					
c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>501281</u> . A duplicate copy of this sheet is enclosed.					
<b>NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.</b>					
SEND ALL CORRESPONDENCE TO: B. Franklin Griffin, Jr. Griffin & Szimpl, P.C. Suite PH-1 2300 Ninth Street, South Arlington, VA 22204 Telephone: (703) 979-5700 Facsimile: (703) 979-7429			 SIGNATURE: B. Franklin Griffin, Jr. NAME 19,334 REGISTRATION NUMBER		

Applicant or Patentee: \_\_\_\_\_ Attorney's  
 Serial or Patent No. \_\_\_\_\_ Docket No.: \_\_\_\_\_  
 Filed or Issued: \_\_\_\_\_  
 For: \_\_\_\_\_

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
 STATUS (37 CFR 1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR

As a below-named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled  
PROCESS ENABLING FINANCIAL TRANSACTIONS, SYSTEM THEREOF AND ELECTRONIC  
PURSE described in:

- ☒ the specification filed herewith  
☐ application Serial No. \_\_\_\_\_, filed \_\_\_\_\_  
☐ Patent No. \_\_\_\_\_, issued \_\_\_\_\_

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a non-profit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern or organization  
☐ persons, concerns or organizations listed below\*

\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NON-PROFIT ORGANIZATION

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NON-PROFIT ORGANIZATION

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

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I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Philippe Jacot

NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

*St. Bauck*

Signature of Inventor

Signature of Inventor

Signature of Inventor

June 9, 2000

Date

Date

Date

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	Atty. Dkt.: ICB 063
	)	
Philippe JACOT	)	Group Art Unit: Unassigned
	)	
Application No. Unassigned	)	Examiner: Unassigned
	)	
Filed: Herewith	)	
	)	
For: PROCESS ENABLING FINANCIAL	)	
TRANSACTIONS, SYSTEM THEREOF	)	
AND ELECTRONIC PURSE	)	

FIRST PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to calculation of the filing fee, please cancel claims 1-28 and substitute claims 29-47 as follows:

--29. A process enabling financial transactions between a purchaser, at least one seller and at least one financial institute, wherein:

- a first connection is set between an electronic purse carried by the purchaser and a financial institute from which the purchaser is related to,
- at least a second connection is set between said electronic purse carried by the purchaser and a cashing device owned by the seller, and
- for said second connection or any other second connection, a third connection is set between said cashing device owned by a seller and the financial institute from which the purchaser is related to,
- an identification code from said electronic purse is transmitted when each of said connections is set.

30. A process according to claim 29, wherein the third connection is set through a second financial institute from which the seller is related to.

31. A process according to claim 29, wherein said first connection is of radio-electric type on at least a portion of its path, and wherein the third connection transits on the telephone network for at least a portion of its path.

32. A process according to claim 31, wherein the first connection of radio-electric type is realised by a mobile phone.

33. A process according to claim 29, wherein the second connection is realised by a connecting cable which links a connector of the electronic purse to a connector of the cashing device or by a card including writable memory means, or is of radio-electric or infrared type.

34. A process according to claim 29, wherein the first connection includes in particular the steps of:

- transmission of a PIN code,
- transmission of a spending authorisation request for a specific amount of money, and
- transmission of a spending authorisation of the specific amount of money, and/or
- transmission of the specific amount in electronic money.

35. A process according to claim 29, wherein the second connection includes in particular the steps of:

- transmission of the spending authorisation of a specific amount of money, and/or
- transmission of the specific amount in electronic money.

36. A process according to claim 29, wherein the third connection includes in particular the steps of:

- transmission of an identification code from the cashing device, and

- transmission of the spending authorisation of a specific amount of money, and/or
- transmission of the specific amount in electronic money.

37. A processing according to claim 29, wherein the first and/or second connection includes in particular a step of:

- transmission of a recognition code of a parameter suitable for the buyer, said buyer introducing said parameter by a keyboard of the electronic purse and/or by a recording device of said parameter, said recognition code being separately transmitted or combined with the identification code from the electronic purse.

38. A system to implement the process according to claim 29, wherein it includes following means:

- a first device for establishing a first connection between an electronic purse carried by the buyer and a financial institute from which the buyer is related to,
- a second device for establishing a second connection between the electronic purse carried by the buyer and a cashing device owned by a seller, and
- a third device for establishing a third connection between said cashing device owned by a seller and the financial institute from which the buyer is related to
- said first, second and third devices for establishing a connection being able to transmit an identification code from the electronic purse.

39. A system according to claim 38, wherein said third device for establishing a third connection includes connecting means between the cashing device owned by a seller and a financial institute from which the seller is related to, and other connection means between said financial institute from which the seller is related to and the financial institute from which the buyer is related to.

40. An electronic purse being part of a system according to claim 38, and for executing a process enabling financial transactions between a purchaser, at least one seller and at least one financial institute, wherein it includes in particular:

- a first device for establishing a first connection with a financial institute, and
- a second device for establishing a second connection with a cashing device,
- said devices for establishing a first and a second connections being able to transmit an identification code from said electronic purse.

41. An electronic purse according to claim 40, wherein said first device for establishing a first connection includes in particular transmitting and receiving means of radio-electric signals or mobile phone means.

42. An electronic purse according to claim 40, wherein said second device for establishing a second connection includes in particular a device for introducing a chip card and a device for writing in a writable memory of said chip card, and/or transmitting and receiving means of radio-electric or infrared type.

43. An electronic purse according to claim 40, wherein said second device for establishing a second connection includes in particular a connector for a connection by cable with said cashing device.

44. An electronic purse according to claim 40, wherein it is controlled by a computer program able to carry out a financial transaction according to any currency.

45. An electronic purse according to claim 40, wherein it includes further computer means and bar code reading means.

46. An electronic purse according to claim 40, characterised in that it includes further beacon means allowing to localise it.

47. An electronic purse according to claim 40, wherein it includes further a separated remote control able to send a signal toward said electronic purse in order to desactivate it, and/or a sensitive zone able to record a parameter suitable for the user such as a fingerprint or a signature. --

#### REMARKS

This amendment removes multiple-dependent claims from the application.

Respectfully submitted,

*GRIFFIN & SZIPL, P.C.*

June 19, 2000  
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09/581916

534 Rec'd PCT/PT

19 JUN 2000  
Case 1911

PROCESS ENABLING FINANCIAL TRANSACTIONS, SYSTEM  
THEREOF AND ELECTRONIC PURSE

The present invention concerns financial transactions between a purchaser or a buyer, at least one seller and at least one financial institute. The invention includes a process enabling financial transactions, a system thereof and an electronic purse being part of said system.

- 5        There are several existing systems enabling financial transactions, such as the payment of purchase without cash exchange. One can mention to that end debit or credit cards, and payment cards said "E-CASH".

- 10        For the debit or credit cards, the amount of authorised spending is usually limited. This limitation can be by restricting the amount per transaction or by restricting the amount of transactions over a determined period, one day or one month for example, this restriction being decided by the institute which issues the card and/or by a sort of card. This limitation is due to the fact that the issuing institute having issued the card and controlling its use is usually not informed in real time about the spending of the purchaser. This is a drawback of this sort of card in particular for users having a
- 15        sufficiently supplied account at the issuing institute or bank, and wishing to pay above the determined limit, who cannot access to the whole of their financial resources. A possibility of overcoming this drawback consists in subscribing to many cards for the user in order to use them successively, but it's a disadvantage for the user because he must carry several cards and checks furthermore in order to know the usable
- 20        cards. On the other hand, many sellers are not interested in this type of card system because the payment for any purchase or service to the seller by the issuing institute of the card is not in real time but differed.

- 25        An "E-CASH" payment card recently appeared has to be introduced in a payment device of the bank, like a "BANCOMAT", for being loaded with a selected amount of "electronic money". Later at the time of the purchase, the card is debited of the amount of the purchase, the receiving device of the seller, in which the card has been introduced, being credited with the same amount. The drawback of such system is that it is necessary to go to a bancomat-type device before carrying out payment and that the amount to be charged on the card is limited.

- 30        Another drawback of these above-mentioned cards is also that a card of any type can be easily stolen. At the time of its use by a non-authorised person and unless it has been blocked meanwhile, one checking is usually effected either based on a signature or a PIN code, and that this checking can be easily overcome fraudulently.

- 35        The process enabling financial transactions relating to a purchase between a buyer and a seller according to the invention allows to overcome the above-mentioned

drawbacks of existing processes, in particular by providing an online communication system between the bank or the issuing institute, the buyer and the seller, thus allowing checking operations as regards user's identity, spending authorisation, debit and credit in real time or almost in real time, this being possible with an electronic  
5 purse owned by the purchaser.

Such a process is described in claim 1, a system to implement this process is described in claim 14 and an electronic purse being part of said system is described in claim 16. Any particular embodiments or variants of the process, of the system and of the electronic purse are described in depending claims following from the above-  
10 mentioned ones.

The unique figure shows schematically the proposed system and its different components, in particular the electronic purse.

Firstly one has an issuing institute or bank 1 in which one of the users of the system, namely the future buyer, holds one account. This user receives an electronic  
15 purse 2 from the institute 1. The product or service seller must have a cashing device 3. The seller is customer of a bank 4. The institute 1 must be equipped with means 10 for transmitting and receiving connecting signals 5, 8 to and from the electronic purse 2 as well as to and from the bank 4. The cashing device 3 can receive and eventually transmits connecting signals 6, 7 from the electronic purse 2 as well as to and from  
20 the bank 4.

The electronic purse 2 includes in particular a numeric or alpha-numeric keyboard 20, a screen 21 and an intern electronic circuit 22 coupled with transmitting and receiving means of connecting signals 5 for the institute 1. The connecting signals  
25 5 between the electronic purse 2 and the institute 1 should be of radio-electrical type. Preferably, the connection 5 between the electronic purse 2 and the institute 1 should be made by means of a mobile telephone 23 linked by cable to an appropriate port of the electronic purse and the transmission being made by means of global phone network 50. Being partly made of a keyboard and of a screen according to another embodiment, the electronic purse 2 can be directly integrated into a mobile phone 23  
30 or inversely.

According to another embodiment, the connection 5 between the electronic purse 2 and the institute 1 can also be a direct radio-electrical connection 51 or more generally a connection 52 via a ground relay 53 and the phone network 54 or a connection 55 between the electronic purse 2 and a communication satellite 56 which  
35 transmits the signal via a relay 53 or directly to the institute 1. For this type of connection, the electronic purse 2 is equipped with an antenna 24.

In some cases the radio-electrical connection like above-mentioned should not be possible, for instance in underground shop, a connection between the electronic purse 2 and the institute 1 should be possible through some types of connections 6, 7 and 8 described hereafter.

5 If the user, respectively the buyer, wishes to pay for a product or a service, he firstly establishes the connection 5 of the selected type for his electronic purse or the best type of possible connections in respect of his geographical position, in case the electronic purse is equipped to provide a choice of said above-mentioned connections 5. Preferably, the establishing of a connection 5 starts by the emission of a code  
10 which is memorised in the circuit 22 and suitable for each electronic purse 2. So, the institute 1 immediately and exactly identifies the electronic purse 2 which is connecting, and then the user introduces an additional code, a numeric PIN code, by means of the keyboard 20 in order to identify himself. A computer program installed in the electronic purse 2 displays a set of options on the screen 21. Then with the aid of  
15 the keyboard, the user chooses to debit the account at his institute 1 for an amount of money corresponding to price of the purchase he wants to pay or for an upper amount of money, and to credit his electronic purse 2 with requested amount in electronic money. The whole of these operations happens by means of the connection 5.

The transaction between the buyer and the seller happens by means of a  
20 connection 6 which is established between the electronic purse 2 and the cashing device 3 at the time of the payment. This transaction consists in transferring the amount or part of the amount in electronic money, which has just been downloaded on the electronic purse 2, to the cashing device 3. The connection 6 can be realised in one of the following embodiments. According to the first embodiment as shown under  
25 60, the electronic purse 2 is completed with a chip card 61 having in particular a writable memory. When the card 61 is introduced in an adequate slot of the electronic purse 2, the electronic circuit 22 loads the memory of said card in electronic money for the requested amount of money to carry out the transaction, in similar manner to the one used actually for downloading the E-CASH-type cards. Identification and/or  
30 authorisation codes can be simultaneously downloaded.

Then, this card 61 is taken out of the electronic purse 2 and is transmitted to the cashing device 3 where it is introduced into an appropriate slot.

According to a first variant of the process, the card 61 is compatible with the existing card systems, for example in self-service petrol stations or E-CASH payment  
35 systems. It can be similarly read and debited. The card 61 can be also compatible with Bancomat-type devices which allow cash withdrawal.

According to a second variant of the process, the identification codes are firstly read by an adequate system 30 within the cashing device 3. Then, the cashing device 3 or the seller connects to the issuing institute or bank 1 in which the buyer has an account. This connection can be established in many ways. Since the seller is part of the system offered by the institute 1, the connection can be directly established between the cashing device 3 and the institute 1. In variant, this connection can be established in two portions, a first portion 7 between the cashing device 3 and the bank 4 from which the seller is a customer, then a second portion 8 between this bank 4 and the institute 1. Since the cashing device 3, the bank 4 and the issuing institute 1 are physically located in defined places, the connections 7 and 8 should be established via the phone network as shown under 70 and 80, or via any other means, for example via the Internet connections.

When the cashing device 3 is connected with the institute 1, it interrogates this latter based on the identification codes read on the card 61, about the debit authorisation of the buyer's account for the amount of money of the transaction. When the authorisation is confirmed, the card 61 is debited with the requested amount for the transaction. This electronic money is then registered by means of the connection 7 to the bank 4 of the seller. The money is definitely transmitted to the bank 4 from the institute 1 either simultaneously or, more generally later, after a routine clearing transaction between the institute 1 and the bank 4.

According to a second embodiment of the connection 6, this one can be of electro-magnetic type as shown under 62, the electronic purse 2 including an emitting circuit and an antenna 24, whereas the cashing device 3 includes a receiving circuit and an antenna. In variant, this connection 62 can be of infra-red or ultra-sound type; the transmitting and receiving devices have to be consequently equipped.

According to a third embodiment, one can have a cable 63 equipped with two connectors which can be linked to two corresponding connectors installed respectively on the electronic purse 2 and the cashing device 3.

The above-described connections 62 and 63 transmit the same type of information than those transmitted by previously described chip card 61 connection. In relation to the transmission 60 via the chip card 61, connections of the type 62 or 63 have the advantage of allowing bi-directional transmission between the electronic purse 2 and the cashing device 3.

According to another variant, the connection 6 can be directly established via the electronic purse 2 if it is equipped with an integrated mobile phone 23.

A very important aspect of this process and system is the security offered at all partners of the transaction, the issuing institute 1, the buyer or owner of the electronic purse 2, and the seller or owner of the cashing device 3 and his bank 4.

5 Firstly, the transaction is effected without cash exchange, which constitutes a first measure of security. Moreover, since the institute 1 knows in real time the account balance of the electronic purse's owner, it can authorise spending exceeding a fixed amount of the existing systems, as long as the owner's account has a positive balance. On the other hand, since the seller establishes a connection 7, 8 in real time at the time of the payment of the transaction by the buyer, and since he receives the  
10 bank's authorisation, the seller is ensured of this payment and can accept this payment with an amount upper than a fixed amount. For a supplementary security, the institute 1 can accept the authorisation only if the owner of the electronic purse 2 has downloaded his electronic purse 2 with an amount corresponding to this one of the transaction or upper, during the same day or in a determined laps of time before his  
15 purse is checked by the cashing device 3. Specific precautions must be taken in order to ensure that the carrier of an electronic purse 2 who wishes to effect a purchase is the actual owner whom the institute 1 recognises. As previously mentioned, the carrier of the electronic purse 2 must introduce a numeric PIN code before he can do any transaction. Other means of identification can be imagined, in particular detection  
20 means of a parameter suitable for the owner of the electronic purse. Therefore, the electronic purse 2 can be equipped with a highly sensitive zone 25 on which the owner puts the fingerprint of one of his fingers. The fingerprint is read and compared with one fingerprint memorised in a memory circuit of the electronic purse. It is only when a checking circuit has controlled that the fingerprint of the carrier corresponds to the  
25 owner's one memorised in the memory circuit that the transaction is authorised. Other parameters can be used in place of numeric fingerprint checking like recognition means, such as for example the signature of the carrier which is put on the sensitive zone 25. It's noted that the above-mentioned recognition means can be applied even if several owners are recognised for a determined electronic purse, for example  
30 colleagues of a company sharing the same purse, or members of a family. In this case, the memory circuit contains all fingerprints or all authorised signatures. The PIN code of each authorised user can be different in order to differentiate the users at the institute. When the intern circuit 22 of the electronic purse 2 recognises the introduced parameter, fingerprint, signature or other, it delivers a recognition code which can be  
35 distinguished from the mentioned identification code or combined with the identification code, or in another way the identification code can be transmitted only when the carrier has been positively recognised.

Considering these described levels of security, the institute 1 knows that it is really the owner known from a determined electronic purse who is acting. The seller is assured that the payment is without problem because of the receipt he gets from connections 7 and 8. Considering the described identification means, the owner of an  
5 electronic purse knows that his purse cannot be used if it is stolen. This system allows to prevent any fraudulent activity between two partners of the system.

This process has been described with the establishing of a connection 5  
between the electronic purse 2 and the institute 1 before any transaction. If the user or the owner of the electronic purse 2 plans to effect several purchases in the same day,  
10 he can also download determined amount on his electronic purse by establishing a connection 5 with the financial institute 1 at the beginning of the day for example, from any place where such a connection is easily realisable, and successively debit his  
15 purse 2 with the requested amounts on several cashing devices 3. An advantage of these proceedings is that only one connection 5 is established to download electronic money on the electronic purse 2, from any place where such a connection is easily  
20 realisable. In addition to that, the program menu which is integrated in the electronic purse can advantageously contain a function for restituting the remaining amount in the electronic purse at the end of the day to the institute 1 by establishing a last  
connection 5. This function can be automatic, i.e. activated for a determined moment  
of the day, or manual, i.e. activated by the user. There is therefore no advantage to  
steal an electronic purse which is regularly emptied of its balance of electronic money.

Several functions permit to multiply the market possibilities for the use of  
electronic purse 2. Advantageously, the program inside the electronic purse 2 enables  
to effect a transaction in any type of currency; when the user requests for a spending  
25 authorisation, he can specify the currency concerned. The transaction is then effected in this currency.

The electronic purse is equipped with a keyboard 20 and a screen 21. It is  
easy to implement an appropriate circuit to use it as a calculator. In this case, the  
electronic purse 2 is advantageously equipped with a bar code reader 26. With this,  
30 the owner can effect purchases in a supermarket where product prices are indicated by bar codes, allowing to obtain the whole amount of his purchases after he has  
passed the bar code reader ahead each label equipped with such a code in order to  
have time to establish a connection 5 to the institute 1 and to obtain the spending  
authorisation before going to the till, respectively to the cashing device 3. If the  
35 electronic purse 2 is equipped with an integrated mobile phone 23, or can be linked to such an apparatus, the user can also effect purchases, respectively payments with TV  
network or on the internet network.

In variant or complement, the electronic purse 2 can be equipped with a beacon 27 of Argos or GPS or other type, allowing to find an electronic purse which would be stolen or lost. If the electronic purse is stolen or lost, the owner can alert the institute 1 which can empty the purse and/or de-activate it via the connection 5 and  
5 launch an inquiry via the beacon 27 in case the electronic purse is equipped with such a beacon. In addition to that, in case a non authorised carrier attempts to effect a purchase with the electronic purse, the seller will be informed of that at the beginning of establishing the connection between the cashing device 3 and the institute 1.

In variant or complement against theft of the electronic purse 2, this one can  
10 be completed with a separate remote control 9 by means of which the user can send a signal 90, for example of radio-electric type, to de-activate the electronic purse and eventually control the restitution of the remaining amount. This remote control 9 can be advantageously integrated in a separate mobile phone or in any other current object such as a key ring.

MODIFIED CLAIMS

[ viewed by the International Bureau on January 19, 1999 according to the Article 19 PCT; original claims 1, 10-12 and 14-16 are modified; other claims are unchanged]

1. Process enabling financial transactions between a purchaser, at least one seller and at least one financial institute, characterised in that :

- a first connection (5) is set between an electronic purse (2) carried by the purchaser and a financial institute (1) from which the purchaser is related to,

5 - at least a second connection (6) is set between said electronic purse (2) carried by the purchaser and a cashing device (3) owned by the seller, and

- for said second connection or any other second connection (6), a third connection is set (7, 8) between said cashing device (3) owned by a seller and the financial institute (1) from which the purchaser is related to,

10 - an identification code from said electronic purse is transmitted when each of said connections (5, 6, 7, 8) is set.

2. Process according to claim 1, characterised in that the third connection (7, 8) is set through a second financial institute (4) from which the seller is related to.

3. Process according to one of preceding claims, characterised in that said first connection (5) is of radio-electric type on at least a portion of its path.

4. Process according to claim 3, characterised in that the first connection (5) of radio-electric type is realised by a mobile phone (23).

5. Process according to one of preceding claims, characterised in that the second connection (6, 60) is realised by a card including writable memory means (61).

20 6. Process according to one of claims 1 to 3, characterised in that the second connection (6, 60) is of radio-electric type.

7. Process according to one of claims 1 to 3, characterised in that the second connection (6, 60) is of infrared type.

25 8. Process according to one of claims 1 to 3, characterised in that the second connection (6) is realised by a connecting cable (63) which links a connector of the electronic purse (2) to a connector of the cashing device (3).

9. Process according to one of preceding claims, characterised in that the third connection (7, 8) transits on the telephone network (70, 80) for at least a portion of its path.

30 10. Process according to one of preceding claims, characterised in that the first connection (5) includes further in particular the steps of :

- transmission of a PIN code,



- transmission of a spending authorisation request for a specific amount of money, and

- transmission of a spending authorisation of the specific amount of money, and/or

5           - transmission of the specific amount in electronic money.

11. Process according to one of preceding claims, characterised in that the second connection (6) includes further in particular the steps of :

- transmission of the spending authorisation of a specific amount of money, and/or

10          - transmission of the specific amount in electronic money.

12. Process according to one of preceding claims, characterised in that the third connection (7, 8) includes further in particular the steps of :

- transmission of an identification code from the cashing device, and

- transmission of the spending authorisation of a specific amount of money,

15          and/or

- transmission of the specific amount in electronic money.

13. Process according to one of claims 10 and 11, characterised in that the first and/or second connection (5, 6) includes in particular a step of :

20           - transmission of a recognition code of a parameter suitable for the buyer, said buyer introducing said parameter by a keyboard (20) of the electronic purse (2) and/or by a recording device (25) of said parameter, said recognition code being separately transmitted or combined with the identification code from the electronic purse (2).

14. System to implement the process according to one of the preceding claims, characterised in that it includes following means :

25           - a first device (10, 22, 23, 24) for establishing a first connection (5) between an electronic purse (2) carried by the buyer and a financial institute (1) from which the buyer is related to,

30           - a second device (22, 61) for establishing a second connection (6) between the electronic purse (2) carried by the buyer and a cashing device (3) owned by a seller, and

- a third device (10) for establishing a third connection (7, 8) between said cashing device (3) owned by a seller and the financial institute (1) from which the buyer is related to

35           - said first, second and third devices for establishing a connection being able to transmit an identification code from the electronic purse.

15. System according to claim 14, characterised in that said third device for establishing a third connection (7, 8) includes connecting means (70) between the

cashing device (3) owned by a seller and a financial institute (4) from which the seller is related to, and other connecting means (80) between said financial institute (4) from which the seller is related to and the financial institute (1) from which the buyer is related to.

5           16.   Electronic purse (2) being part of a system according to one of claims 14 or 15, and for executing a process enabling financial transactions between a purchaser, at least one seller and at least one financial institute according to one of claims 1 to 13, characterised in that it includes in particular :

10               - a first device (22, 23, 24) for establishing a first connection (5) with a financial institute (1), and

              - a second device (61) for establishing a second connection (6) with a cashing device (3),

              - said devices for establishing a first and a second connections being able to transmit an identification code from said electronic purse.

15           17.   Electronic purse according to claim 16, characterised in that said first device for establishing a first connection includes in particular transmitting and receiving means (22, 24) of radio-electric signals (51, 52, 55).

              18.   Electronic purse according to claim 16, characterised in that said first device for establishing a first connection includes mobile phone means (23).

20           19.   Electronic purse according to one of claims 16 to 18, characterised in that said second device for establishing a second connection (60) includes in particular a device for introducing a chip card (61) and a device for writing in a writable memory of said chip card.

25           20.   Electronic purse according to one of claims 16 to 18, characterised in that said second device for establishing a second connection (62) includes in particular radio-electric transmitting and receiving means.

              21.   Electronic purse according to one of claims 16 to 18, characterised in that said second device for establishing a second connection (62) includes in particular transmitting and receiving means of an infrared radiation.

30           22.   Electronic purse according to one of claims 16 to 18, characterised in that said second device for establishing a second connection includes in particular a connector for a connection by cable (63) with said cashing device.

              23.   Electronic purse according to one of claims 16 to 22, characterised in that it is controlled by a computer program.

35           24.   Electronic purse according to claim 23, characterised in that said computer program is able to carry out a financial transaction according to any currency.

25. Electronic purse according to one of claims 16 to 24, characterised in that it includes further computer means and bar code reading means (26).

26. Electronic purse according to one of claims 16 to 25, characterised in that it includes further beacon means (27) allowing to localise it.

5 27. Electronic purse according to one of claims 16 to 26, characterised in that it includes further a separated remote control (9) able to send a signal toward said electronic purse in order to deactivate it.

28. Electronic purse according to one of claims 16 to 27, characterised in that it includes a sensitive zone (25) able to record a parameter suitable for the user  
10 such as a fingerprint or a signature.

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ABSTRACT

PROCESS ENABLING FINANCIAL TRANSACTIONS, SYSTEM  
THEREOF AND ELECTRONIC PURSE

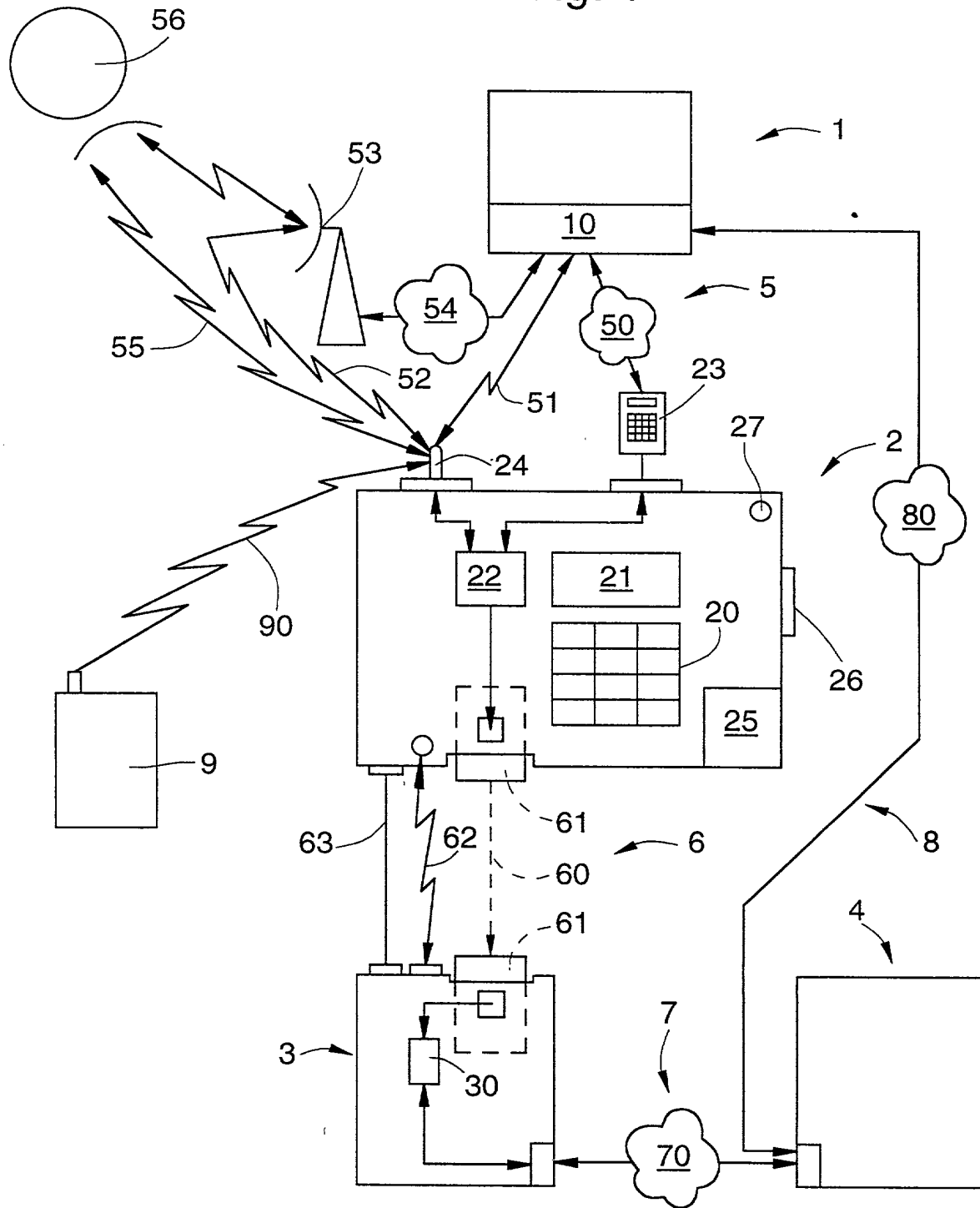
The process and the system enabling financial transactions imply the use of an electronic purse (2). The system permits to establish connections (5, 6, 7, 8) between a financial institute (1), the electronic purse (2) and a cashing device (3). These connections being generally established in real time, the financial institute (1) knows  
5 exactly the balance of the account which the purse holder has opened at this institute (1), and the seller receives in real time a receipt (quitus) of the amount requested for the transaction.

Several complementary measures ensure the security of the system.

10 Figure 1

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Fig. 1



**CAUTION: THIS FORM MAY BE USED ONLY IF ALL INVENTORS READ AND UNDERSTAND ENGLISH.**